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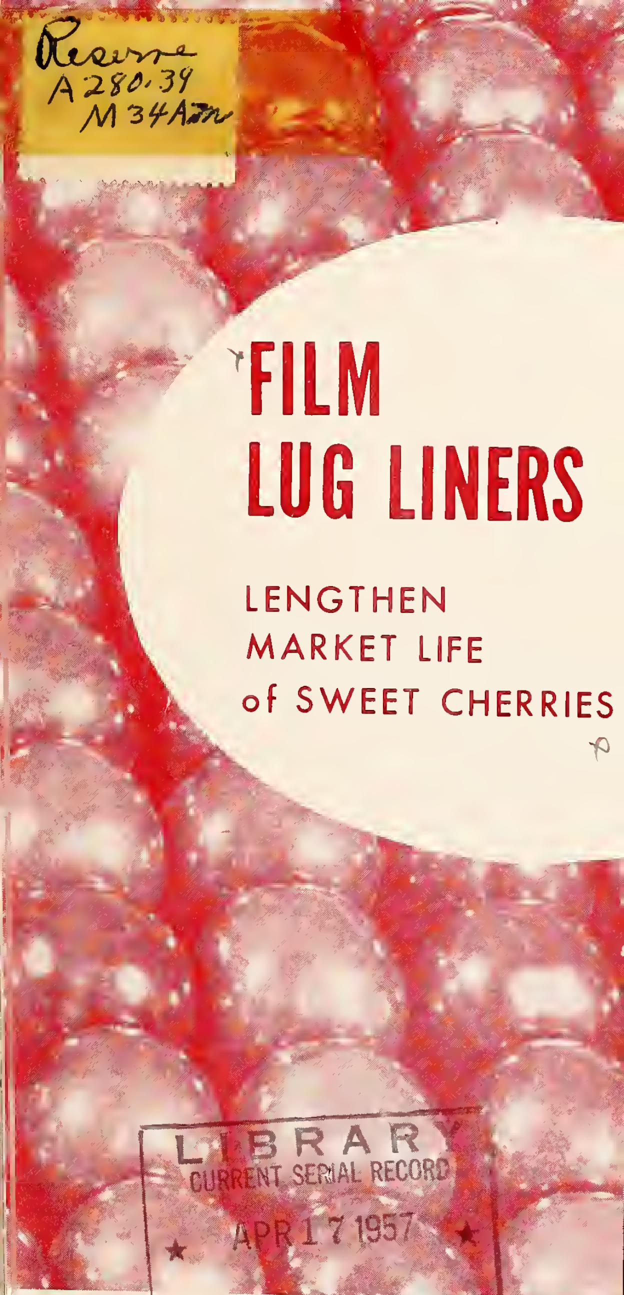

FILM LUG LINERS

LENGTHEN MARKET LIFE of SWEET CHERRIES

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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
MARKETING RESEARCH DIVISION
WASHINGTON 25, D. C.

AMS 177 APRIL 1957

Sweet cherry packers know that a fresh appearance at the point of sale is the most important thing in marketing this highly perishable fruit.

After more than 2 years of research at Wenatchee, Wash., research specialists* of the Agricultural Marketing Service, USDA, have recommended the use of polyethylene film liners for cherry lugs.

Recently completed tests show that sweet cherries can be held in sealed polyethylene liners in cold storage for 2 weeks following harvest, and still be shipped by freight to eastern markets and arrive in an acceptable condition.

Prior tests had shown that many synthetic films are not suited for sealed bag liners; but polyethylene film makes it possible to build up and maintain the desired level of about 6.5% carbon dioxide and 9.0% oxygen within the sealed liners.

In addition to marked reduction of decay during transit and storage, the film liners preserve stem appearance and freshness and color brightness of the fruit for longer periods of time under usual storage and transit conditions.

Poly-laminated paper liners were found to be unsatisfactory, since they are not gas-tight enough to permit the accumulation of the desired levels of carbon dioxide.

This leaflet is designed to get the results of this research out briefly and quickly. A more detailed research report will be published at a later date.

**F. Gerhardt, H. Schomer, and T. R. Wright*

A Summary of Latest Research

CHERRY MARKET LIFE EXTENDED 3 WEEKS

AFTER SIMULATED IMMEDIATE FREIGHT SHIPMENT AND RETAILING:
(10 days at 36° F. and 3 days at 65° F.)

When removed from simulated transit conditions, the cherries packed with the normal glassine paper liners were darker in color, less firm, and showed more pronounced shriveling and aging than any of the lots packed in polyethylene. Cherries stored in ''poly'' liners were definitely more crisp, and retained better stem appearance.

After holding for an additional 3 days at 65° F., with the liners opened, the fruit stored in the ''poly'' liners was much firmer, showed much less crown shriveling than the cherries in paper liners.

AFTER STORAGE, SIMULATED FREIGHT SHIPMENT AND RETAILING:
(14 days at 31° F., 8 days at 36° F., and 3 days at 65° F.)

After these extreme storage and transit conditions, the cherries in the standard packs were soft, severely pitted, visibly shriveled, dark in color, with brown dry stems, and about 8% decayed.

In contrast, fruit in all of the ''poly'' packs was remarkably crisp, had a bright red and fresh appearance, with only minor surface pitting.

SPOT SEAL LINERS PERMIT EASY INSPECTION:

Special spot-seal liners, made by spot sealing the film at the bottom, make it possible to easily inspect double-row-facing packs, with simple overlap resealing. Both twist and overlap seals were tested and found satisfactory, but the overlap was found to be more rapid and less expensive.

SUBSTITUTE FREIGHT FOR EXPRESS SHIPMENTS:

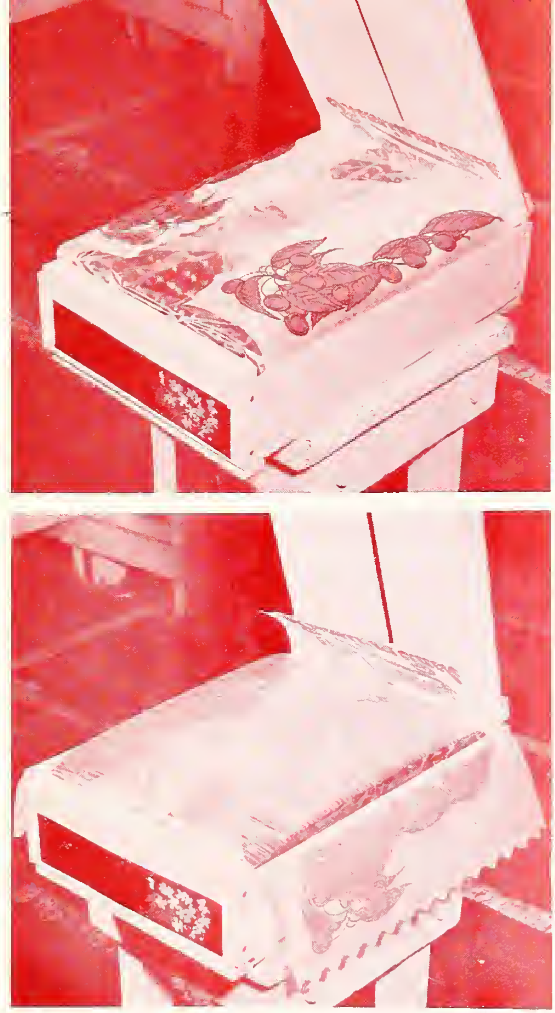
Instead of rushing the fruit east by express, regular freight can be used without dry ice as a source of CO_2 if cherries are in sealed ''poly'' packs. As much as 2 weeks can be safely allowed.

WARM FRUIT PACKED IMMEDIATELY:

Research results show that it is possible to place noncooled cherries directly into sealed ''poly'' packs immediately following harvest, provided subsequent precooling is rapid and thorough.

CAUTION

"Poly" packs must be split or opened when removed from refrigeration and the fruit held under higher temperatures. This prevents the building up of undesirable levels of carbon dioxide and the reduction of oxygen in the packs.



INSPECTION of double-row-faced packs is accomplished easily with quick reclosure through use of this polyethylene lug liner. Top views shown here illustrate the spot sealing before inspection, and the simple overlap seal after inspection. Completely satisfactory results were obtained from the research tests on this particular liner.